

Innovative solutions

The key to seamless internet access in china

GNX

White paper | 2026

Internet connectivity isn't just a tool;

it's a lifeline for businesses. It shapes how they operate, collaborate, and innovate. But here's the thing, in the vast digital landscape of China, unique challenges can disrupt the flow of information and opportunities. So, we wrote this white paper to dive into the challenges of China's internet terrain, discuss their impact on businesses, and introduce the solutions available to overcome these challenges and optimize their connectivity experience. Shall we get into it?

Contents

01	Internet connectivity isn't just a tool	P.2
02	Introduction	P.4
03	A connectivity puzzle for the global enterprise	P.5
04	A way out: what to do	P.6
05	The GNX solution for China Connectivity	P.7
06	Conclusion	P.8

Introduction

In today's world of information, we all expect internet to just be there, right?

We assume it works and that it will allow us access to our data and resources.

Whenever. Wherever. Users on the factory floor. Remote workers turning on their laptops from a coffee shop. Executives behind their desks. None of them wonder if their documents are in an Azure cloud or where their applications are hosted.

They work, and that's all they need to know – until they don't work anymore...

This is internet connectivity. More than a tool, it is a lifeline for businesses, shaping how they operate, collaborate, and innovate. And for global enterprises with a footprint that extends to the vast digital landscape of China, unique challenges can surface and disrupt the flow of information for these users, and a whole bunch of opportunities for the enterprise.

This white paper dives into the challenges of China's internet, discusses its impact on businesses, and becomes a helpful guide while navigating towards the best solution for your business.

Let's get into it

A connectivity puzzle for the global enterprise

Before jumping to a conclusion, let us say this first: The Internet in China is not bad. Far from that. Just last November, China announced the launch of “the world’s first ultra-high-speed-next-generation Internet backbone” with a bandwidth of 1.2Tb per second (which, according to Bloomberg, is several times faster than typical speeds around the world). Whether this new network is widely available or not, domestic internet is as good as it gets. But when data needs to cross the border, that's when things get tricky.

On the one hand, **regulatory restrictions** imposed by the Chinese government create barriers to accessing international websites and restrict the use of some SaaS applications –

many of which are essential for communications and daily collaboration between employees, partners, and customers.

Going back to our mention of Azure (the cloud hosting our most basic Microsoft Office tools). If our video call application is hosted somewhere outside China, our colleagues in Beijing will simply not be able to get in.

Then, there are the processes and systems used to control the internet (content filtering, IP address blocking, URL redirection, etc.), all of which introduce latency and packet loss, affecting crucial business functions and user experiences.

Bringing these together, the result is slower connectivity, poor quality, and an impact on productivity and business operations. Not to

sound gloomy, but global businesses that rely heavily on global cloud services, collaboration tools, and real-time data exchange can be directly impacted by China's internet restrictions. Suddenly, remote working becomes a challenge for employees who can't rely on consistent networks. Operations are hamstrung, efficiency is compromised, and competitiveness is diminished.

The inability to access vital information and tools stifles growth and innovation. Furthermore, the use of cloud-based platforms and the adoption of technologies like SD-WAN, SASE, and SSE are hampered. It's a tough scene all around. Making a compelling case for the search of effective solutions.

And we were trying not to sound gloomy...



A way out: what to do

Here's the good part, there is a way out. For the issues listed above and for your resources in the cloud. But first, it's important to understand how the internet routes its traffic.

By design, the internet is decentralized, and all internet service providers are connected to so-called Tier-2 or Tier-1 providers. These providers have a full overview of the Internet (this is why we like to call them 'provider of providers'). Within China, connectivity to these providers is a bit more limited, and the exit points out of the country are only at a few locations.

These are the locations affected by the policies and control systems mentioned before, therefore the performance issues we know.

If the Internet is the superhighway of information, we can see these exit points as the government's border control – if you've been there before, you've probably experienced these long queues of cars. This is internet data trying to get in and out – slowed down by the process or even blocked for not having the right documentation.

The solution is then to take a different exit.

A good option is to rely on **private (point-to-point) connectivity** between your two sites to overcome the restrictions impacting crossborder connectivity. Think of it as a private jet for your business resources. The traffic in these connections is not regulated and can cross the border without having to go through filtering or control. This also means your local sites need a different way to get on the internet, which can be done from any other country where the private connectivity terminates.

Side note: Hong Kong used to be the go-to point as the internet is not (yet) regulated under Chinese legislation. However, this may change in the future, and it's becoming a less popular option. Singapore is another preferred destination as it's a highly connected hub in southeast Asia. Nevertheless, there are many options, whether in the region or outside APAC.

Another solution, used to connect two different clouds or data centers, would be to use **private connectivity to a public cloud instance already hosted outside China**. For example, sticking to our Azure example, a direct link to an Azure cloud hosted in Western Europe. What does that mean for you? Well, it means your team can access resources that are usually off-limits within the confines of Chinese restrictions. Ensuring a seamless experience across the entire global workforce.

Side note: When looking into solutions, remember to keep in mind latency due to the additional distance that needs to be traveled across the private network and where the traffic is destined.

¹<https://www.tsinghua.edu.cn/en/info/1245/12541.htm>

²<https://www.bloomberg.com/news/articles/2023-11-15/world-s-fastest-internet-china-claims-1-2-terabit-per-second-breakthrough>

The GNX solution for China Connectivity

Knowing that there are different paths to a solution, begs the question: where do we start? To help your businesses with that, we offer a range of tailored solutions designed to overcome the challenges of cross-border connectivity to or from China.

Premium DIA

One standout offering in our portfolio is the Premium DIA service, which comprises two key components. The first one is a regular DIA connection and establishes a private point-to-point circuit linking China to data centers in places like Hong Kong, Singapore, or even Europe. This circuit is the way to smooth crossborder access, leaving latency and packet-loss issues behind. The second component provides internet connectivity within a data center beyond China's borders, meaning you have access to the internet from a local IP space.



End-to-end Private Connectivity

For businesses with a presence in China's public cloud provider regions, we also offer seamless end-to-end private connectivity between China-based and European-based cloud regions. We're talking about secure tunnels (VPN or SD-WAN/SASE) which provide efficient access to global cloud services while ensuring compliance with regulatory requirements.

Hybrid – Domestic and Private Connectivity

It is also good to know that a hybrid underlay solution of domestic internet and a private point-

to-point circuit is also an option. This is often used by enterprises with a strong presence in China. What happens is that you blend both underlays using an SD-WAN solution, managing specific traffic to be sent to different destinations.

Now, when it comes to making a decision, there's no one-size-fits-all answer. It depends on the type of data being transferred, how timesensitive this is, where your sites are located, your budget, and so on. With these in mind, we will dive into your use case and find the direction that checks all the boxes for you.



Conclusion

Internet connectivity in China may be challenging for global businesses, but not impossible. Solutions like the **Premium DIA** service and **End-to-end Private Connectivity** empower enterprises to overcome these challenges and achieve seamless, high-quality connectivity.

Customers turn to us for our expertise in engineering solutions that tackle their specific requirements, finding the sweet spot between regulatory compliance and the best possible connectivity. Our carrier- and technology-neutral portfolio offers a whole buffet of options for companies looking for improved internet connectivity – be this China, the Middle East, Africa, or wherever they do business.

With our global know-how, tailored advice, and straightforward approach, you'll thrive in China's digital landscape while staying connected to global opportunities. Reach out to us to dig deeper into our connectivity solutions and see how we can help you navigate through China's connectivity landscape.

Would you like to learn more? Contact us at **contact@gnx.net** for a free consultation.

gnx.net

For more info

Europe +31 30 227 3500

Americas +1 212 321 0764

contact@gnx.net

The GNX logo is located in the bottom right corner of the page. It consists of the letters 'GNX' in a bold, sans-serif font. The 'G' and 'N' are yellow, while the 'X' is white. The logo is set against a blue background.

GNX